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ABSTRACT

Full-text databases allow Central Missouri State University's clients to access some of the serials that libraries have had to cancel due to escalating subscription costs; EbscoHost, the subject of this study, is one such database. The database is available free to all Missouri residents. A survey was designed consisting of 21 questions intended to gather information regarding students' comfort level using computers and EbscoHost; previous experience with print and electronic periodical indexes; feedback from students' assignment using EbscoHost; and their opinions and preferences. A large percentage of the respondents are in their first year at Central; most of the remaining students are in their second year. The majority of the students surveyed never used EbscoHost or they had only used it once. The primary conclusion is that instruction sessions are beneficial to most students, including those who characterize themselves as being comfortable with computers. (AEF)

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# PREPARING COLLEGE STUDENTS TO SEARCH FULL-TEXT DATABASES: IS INSTRUCTION NECESSARY?

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**Preparing College Students to Search Full-Text Databases:**
**Is Instruction Necessary?**

## Background

Central Missouri State University is a comprehensive regional university with a fall 1997 enrollment of 11,620. Of this number, 1,470 are freshmen. Central's student body represents a diverse population with individuals from both rural and urban backgrounds, as well as a substantial population of international students. In the 1997-98 academic year, approximately 500 international students are enrolled as full-time students.

Central's library is typical of most in that we are experiencing an increasing number of electronic reference products. Our dependence on CD-ROM's is fading as more products become available through Internet access. Electronic indexes offer flexibility in searching that print sources cannot provide. They allow users to narrow searches more effectively than possible in print searching, and an increasing number of these services provide some full-text possibilities. An additional advantage to such systems is the provision of articles from journals to which the local library does not subscribe. Like all libraries, Central is struggling with escalating serials' costs and has been forced to cancel subscriptions to titles which have become too expensive to own. Full-text databases allow our clients to access some of these titles.

## *EbscoHost*

*EbscoHost*, the subject of this study, is one such database. Central receives *EbscoHost* as a result of a contract between Ebsco Information Services and the state of Missouri. The database is available free to all Missouri residents. Central students can access *EbscoHost* from

the library or any of the computer labs on campus, as well as from residence halls. There is no cost to the student. Since we began the project, we have added Searchbank, another full-text online service. It also allows students access from several points, including the library, all Central computer labs, and the dorms. This pattern, increasing our reliance on full-text databases, is expected to continue.

Two of the librarians who work at the reference desk decided to investigate the effect of prior instruction on clients using *EbscoHost*. There are several reasons for a study of this type. First, many of these databases, including *EbscoHost*, are marketed as ready for the end-user (without benefit of previous instruction or librarian intervention at the time of searching.) Second, many libraries are experiencing a reduction of personnel for reference service, limiting the amount of patron assistance available. Finally, users' growing comfort level with electronic sources, including the Internet, may affect their inclination to conduct independent database searching.

Our goal was to determine the effect of prior instruction on students' use of *EbscoHost*. That is, did students who received a formal introduction to the database perform differently than students who did not receive such instruction? In order to study this, we first identified sections of undergraduate classes with instructors who were interested in our study and enthusiastic in their support. The classes involved were two sections of Freshman Composition; one section of Public Speaking; and four sections of Information Resources, an introductory course on using the college library. The total number of students in the classes was 181, of whom 140 were freshmen. This number represents approximately 10% of our freshmen population.

Early in the fall 1997 semester, one librarian conducted hour-long instruction sessions on *EbscoHost* for one section of each course; the other group received no instruction. There was

only one section of Public Speaking; this class received the instruction session prior to completing the assignment. All groups were given an assignment that involved searching *EbscoHost* for information. The assignment included a survey, in an attempt to measure students' self-reported levels of satisfaction and ability to search *EbscoHost*.

One of our goals was to provide instruction for all students who might benefit. Therefore, students who did not receive instruction before the exercise attended a session afterwards. By the conclusion of the project, all sections of classes involved had attended a presentation on *EbscoHost*. As we prepared, we discovered that both the Ebsco Client and the Internet site were subject to connection problems. Because we wanted to present the most helpful possible information to the students, while maximizing the time we had, we decided that preparing a Presentations program incorporating a "canned" demonstration of *EbscoHost* would help ensure consistency of coverage of information. This format allowed us to focus on instruction rather than being overly concerned about and dependent upon connection problems.

The demonstration consisted of an explanation of the database, the Windows environment, common commands and search strategies, and ways to narrow the search. We provided examples of types of searches, along with realistic problems and how to resolve them.

We entered the study with several expectations. We expected that instruction sessions would improve students' ability to search *EbscoHost*; that many students would not feel they needed assistance; and that our users would appreciate not having to come to the library to use it.

We designed a survey which consisted of 21 questions, intended to gather information regarding the students' comfort level using computers; previous experience with print and electronic periodical indexes; feedback from students' assignment using *EbscoHost*; and their opinions and preferences. A copy of the instrument is attached.

## Definition of Terms

In order to ensure understanding, the following definitions are offered:

**demo group**: the group which received instruction prior to completing the assignment

**non-demo group**: the group which did not receive instruction prior to completing the assignment

**reference room**: the primary service point for the library. Librarians are available to offer assistance with print and electronic reference sources

**search terms**: words and phrases selected by the user to retrieve information on a particular topic

**search strategy**: ability to combine search terms in a logical matter to retrieve information

**boolean**: the logic used to combine search terms with operators (words such as "and," "or," and "not") which have special meanings in search statements

## Survey Results

A large percentage of the respondents--80.43% of the demo group and 74.16% of the non-demo group--are in their first year at Central. Most of the remaining students are in their second year. We learned that the majority of students surveyed had never used *EbscoHost* or had used it only once. Approximately 80% of both the demo and non-demo group fall into the category of using this product never or only one time. While this finding did not surprise us, we were startled to learn that approximately 40% of the demo group and 44% of the non-demo group reported no previous print index usage. Approximately 55% of the demo group and 45% of the non-demo group had used print indexes two or more times. Slightly less than half of each group had used CD-ROM indexes two or more times. Many had never used CD-ROM indexes.

Most students responded positively to the first question, "Are you comfortable using computers?" Both the demo and non-demo group were very similar in their responses, as we expected. 76.09% of the demo group and 78.66% of the non-demo group said yes to this question. However, a significant percentage--22.83% of the demo group and 20.22% of the non-demo group--indicated their lack of comfort using computers.

Because *EbscoHost* is available from several locations on campus, we were interested in knowing where students used this service. By far the greatest number came to the Reference Room; some used *EbscoHost* from the computer lab in the library or others on campus, or from their dorm rooms. Those who had the demo were much more likely to use *EbscoHost* from their dorm rooms: perhaps the other students didn't know this was possible. Students who came to the library building were much more likely to use *EbscoHost* in the Reference room than from the computer lab in the building.

Most students were happy with their search results; many felt that they retrieved "too much" information (approximately 36% from the demo group and 38% from the non-demo group.) This is a common problem that librarians frequently encounter. Students often experience difficulty narrowing a search to a manageable number of responses.

We assigned topics that we knew were covered by *EbscoHost* for the students to research, so we knew that, in most cases, a boolean search strategy would be required. Most students used two or three search terms to perform their search. Approximately 70% of both groups were able to find their information after only one search.

Of the demo group, 30.43% stated that they strongly agreed with the statement "I liked *EbscoHost*." Only 14.61% of the non-demo group felt the same way. Over 51% of the demo group agreed with the statement, while more than 41% of the non-demo group did.

Approximately 82% of the demo group liked the product, while 56% of the non-demo group did. This difference seems significant. It appears that the students who had the benefit of a demo prior to use felt more comfortable and confident as they used the database.

When asked to respond to the statement, "I will use *EbscoHost* again," approximately 88% of the demo group strongly agreed or agreed, while approximately 66% of the non-demo group strongly agreed or agreed. The fact that the group that had received instruction prior to the assignment is more positive about the product reinforces the benefits of such efforts.

One question attempted to measure students' preferences for *EbscoHost* or print indexes. Approximately 77% of the demo group strongly agreed or agreed that they prefer *EbscoHost* to print indexes; of the non-demo group, about 60% felt the same way. A similar pattern was found in the students' preference for *EbscoHost* to CD-ROM indexes. Almost half of those receiving the demo prefer the former; of the students who did not receive instruction prior to use, only 27% indicated a preference for EbscoHost.

The reasons students listed for preferring this product varied by group. The demo group especially liked the ability to locate full-text articles; the non-demo group appreciated its ease of use. We wonder what percentage of students in that group even realized the full-text capability--something that was emphasized in the instruction session. Similarly, fewer students who had not received instruction listed the availability out of the library. Again, they may not have been aware of this aspect. A striking difference between the two groups is the greater preference for the product among those who have received instruction: 23.60% of the non-demo group stated that they do **not** prefer *EbscoHost*, compared to only 8.70% of the demo group.

Measurements of both ease of use and need for assistance were improved by the instruction session. Most students found *EbscoHost* easy to use. Of the demo group

respondents, 38% strongly agreed that it is easy to use, while 24% in the non-demo group did. Most students did not think they needed help with *EbscoHost* to complete the activity. Of the demo group, 24% appeared to need some help, while 35% of the non-demo group did.

About half of all students involved in the study felt that an instruction session was a good idea. About 51% of the demo group believed they benefited from theirs, while 45% of the non-demo group felt that one would have been beneficial to them. Only 10% in the demo group seemed to feel that the session was not helpful; about 11% in the non-demo group believed that it would not be helpful. These numbers appear to support the idea of providing such sessions.

**Correlational Analysis**

We subjected some questions to correlational analysis to further investigate the relationship between various factors. We were especially interested in determining the effect of the demo on the students who indicated they were uncomfortable with computers. 58% of those not attending a demo needed help to complete the assignment; 38% of those who attended a demo needed help. It appears that this group benefited significantly from the instruction session. Similarly, we were interested in the effect of the demo on the students who said they feel comfortable with computers. We discovered that 29% of those who did not attend a demo needed help to complete the assignment, while 19% of those who attended the demo needed help. Our conclusion is that even the students who are not intimidated by the technology benefited from the instruction session.

Further correlational analysis was used to determine the relative helpfulness of the instruction session: was it equally helpful to both groups of students--those who feel comfortable with computers and those who do not? Of the students who don't feel comfortable with

computers, 63% of the students who attended a demo agreed or strongly agreed with the statement that the instruction session helped. A much smaller number (37%) of those who did not attend a demo felt that doing so would have been helpful. Perhaps we can deduce from this data that an instruction session often turns out to be more helpful than students anticipate. Of the students who feel comfortable with computers, 50% of those who attended a demo found it helpful; 25% of those who did not attend a demo felt that it would be helpful. Again, we see the pattern that students seem to find the session more helpful than they would predict.

We investigated the effect of instruction on a student's perception of ease of use. Of the students who did not receive a demo before completing the assignment, 63% of the non-computer users felt that *EbscoHost* was easy to use; 62% of the computer users felt this way. Of the students who attended a demo before completing the assignment, 76% of the non-computer users found *EbscoHost* easy to use; 94% of the computer users found it easy to use.

The positive finding for librarians is that, in both populations, there was a correlation between attending the instruction session and the user's judgment of ease of use. The most significant difference was for the students who feel comfortable with computers: 94% of the demo group verses 62% of the non-demo group found it easy to use.

**Findings about *EbscoHost***

- In general, students who attended instruction sessions before completing an assignment on *EbscoHost* liked the product better and were more inclined to use it in the future.
- They needed somewhat less assistance than students who did not receive prior instruction.
- They found the product easier to use.

- Both groups--computer users and non-users--benefited from instruction, perhaps more than they had expected.

**Findings about our Clientele**

- Many students don't want to use the Computer Commons Laboratory, found in the same building.
- Students often don't understand our terminology. For instance, many don't know what we mean by the term "Reference Room." They don't understand what we mean by "search term."
- A significant number of students said that they have never used an index--either in print or electronic form.
- Students wanted more help than we expected.
- Instruction sessions provide important peripheral knowledge --such as the fact that *EbscoHost* can be accessed from dorm rooms and is widely available in the state.
- More students than expected said they received too much information.

**Conclusions**

The primary conclusion is that instruction sessions are beneficial to most students, including those who characterize themselves as being comfortable with computers. Because students who have received such instruction require less help when using the database, this group instruction time is time well-spent. Librarians often feel that our users come to us with little prior experience with standard reference sources. Our data confirmed that suspicion. We asked all students about their previous experience using print indexes. Of the 193 respondents, only 36

indicated that they had previously used print indexes more than five times--a number which would hardly qualify them as "heavy users." The fact that only 19% stated that they had this level of print index usage reveals their limited experience. While 30% of the demo group placed themselves in this category, only 8% of the non-demo group did so, possibly indicating a lack of vocabulary. That is, it's possible that fewer of those who did not receive an instruction session understood the meaning of the term "print index." Because we reviewed basic library resources and some terminology in the instruction sessions, those who did not attend a session prior to completing the assignment may have failed to understand the question. Nevertheless, the number is discouragingly low.

## Implications for the Future

We would like to repeat this study, or conduct a similar one, on Searchbank, our new online database. We would have students search for information on their own question, rather than one that we assigned to them.

Name:_____

Class & Section:_____

**LIBRARY ASSIGNMENT**

Circle your response to the following questions:

I feel comfortable using computers
- yes
- no

This is my ___ year at Central
- first
- second
- third
- fourth
- more than four

For this portion of the activity, you are to find articles to use as evidence for your point-of-view in a "paper" you may be assigned. Your topic is:
Use EBSCOhost MasterFILE FullTEXT 1000 to complete this activity. Use your topic to answer the following questions.

1. List the complete citation from EBSCOhost of a full-text article on your assigned topic.

2. My first search used the term(s)_____

   _____

   And gave me _____ hits.

3. Other terms I searched under were (please list all that you used)_____

   _____

   _____

Please answer the following questions about the EBSCOhost activity you just completed. Circle your response:

Prior to this activity, I had used EBSCOhost
- never
- once
- 2-5 times
- more than 5 times

Prior to this activity, I had used print indexes (a print index is a paper volume such as Readers Guide to Periodical Literature located on the index tables in the reference room)

- never
- once
- 2-5 times
- more than 5 times

Prior to this activity, I had used CD-ROM indexes

- never
- once
- 2-5 times
- more than 5 times

For this activity, I used EBSCOhost

- in the Reference Room
- in the Self-Instruction Center
- at a campus computer lab not in the library
- in my residence hall or home
- other (please specify)_____

My search gave me:

- no results
- just enough to complete the activity
- too much

I used _____ search terms

- one
- two
- three
- more than three

I did _____ searches to find the information I needed

- one
- two
- three
- four to ten
- more than ten

I liked EBSCOhost

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

I will use EBSCOhost again

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

I prefer EBSCOhost to print indexes (a print index is a paper volume such as Readers Guide to Periodical Literature located on the index tables in the reference room)

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

I prefer EBSCOhost to CD-ROM indexes

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

The reason I prefer EBSCOhost is

- ability to find full-text articles
- easier to use
- I don't have to come to the library
- I **do not** prefer EBSCOhost

EBSCOhost is easy to use

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

I needed help with EBSCOhost to complete this activity

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

An instruction session would have helped me use EBSCOhost

- strongly agree
- agree
- neither agree nor disagree
- disagree
- strongly disagree

I spent ___ amount of time on this activity

- thirty minutes or less
- thirty-one minutes to an hour
- sixty-one minutes to 2 hours
- more than 2 hours